

## ABSTRACT OF THE DISCLOSURE

Bi-directional communications modules are configured for propagating transmission and reception of optical data along each of dual optical cables. The modules generally include: a first transmitter configured for transmitting data on a first wavelength channel onto a first optical fiber; a first receiver configured for receiving data on a second wavelength channel from the first optical fiber; a second transmitter configured for transmitting data on the second wavelength channel onto a second optical fiber; and a second receiver configured for receiving data on the first wavelength channel from the second optical fiber. By changing the use of the dual optical cables from unidirectional traffic to bi-directional traffic, the modules thereby double the data transmission capacity of the cables without changing the size of the cables or transceiver modules or requiring the installation of new cables.

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